

ABSTRACT OF THE DISCLOSURE

-- A projection exposure apparatus includes a projection optical system arranged to project a pattern onto a substrate, a holding portion arranged to hold an optical element which propagates light toward the projection optical system, a mask having a transmission portion and being disposed on or near an image plane or object plane of the projection optical system or a plane conjugate to the image plane and the object plane, an actuator arranged to drive the mask along a plane of an image of the optical element formed by the projection optical system, and a measurement device arranged to measure an intensity of light while the mask is driven. The light emerges from the optical element, and passes through the projection optical system and the transmission portion of the mask. The measurement device includes a measurement surface positioned at a plane conjugate to a pupil plane of the projection optical system or a plane spaced apart from the mask enough to separately detect respective rays emerging from plural points of the pupil plane and passing through the transmission portion. --